

REMARKS

Claims 4, 11, 14, 18, and 21-36 are pending in the patent application. Claims 1-3, 5-10, 12-13, 15-17, 19-20 have been canceled without prejudice or disclaimer. Claims 4, 11, 14, and 18 have been amended. New claims 21-36 have been added. No new matter has been added.

Applicant has amended Figure 3 to Figure 3A and includes replacement drawing.

This is response to the action mailed 20 Oct 2004, the response date being extended one day due to a Patent office holiday. Reconsideration of the outstanding rejections is respectfully requested.

The examiner has cited two references, namely Millard and Beaulieu in support of the section 102 and sec 103 rejections.

Turning to the new claims first, claim 21 there is claimed a system, which includes hinging members, which are configured to urge the bridging members to deploy the truss. This is of particular importance in a configuration where the trusses are inherently collapsible. Not only is it a safety concern, but in assembling the truss, because they can be folded left or right, the center point it hard to find and maintain. By constructing a system where the deployed state is the default position, it is easy for the user to find it and keep the truss deployed.

In both prior art citations, neither have such a feature. In the case of Millard, which has some form a uniform frictional resistance, finding the extend deployed position is tricky. When several trusses must be connected together, it will be necessary to manipulate each truss to its true dead-center position before they can be interconnected. The Beaulieu structure has not apparent resistance feature and consequently it becomes an unwieldy system to hold deployed until the cross member is engaged.

In addition, only the present invention can practically be used without the locking system of Beaulieu, or the resistance system of Millard, making it a much simpler and efficient design. Of course, it also makes the present invention patentably distinction from the cited art.

Claim 22 likewise adds a feature not known in the prior art. By varying the frictional resistance across the hinge's surface, it is possible to further enhance this urging function and thus for the reasons set forth about, the invention of claim 22 is not rendered obvious by the prior art.

Claim 23 further defines the urging concept by creating a "snap" deployment system. This makes it easy for the user to know when the truss is in its usable position. Neither Beaulieu nor Millard have anything close to this feature.

Claim 24 further defines the hinge member as having a block with a channel for receiving the bridging member. The closest art Millard does not have a channel for receiving a moveable bridging member as it is not the bridging member that moves in Millard.

Claim 25 includes filleting (roughing of the surface) to achieve the required resistance.

Claim 26 includes radiusing of the channel to achieve the required resistance. This concept is not shown in the cited art.

Claim 27 further defines the radiusing by reciting a differential in bending angles to achieve the necessary resistance to rotation. Again, this is not in the prior art.

Claim 28 defines the hinge block wherein the channel includes a flared portion. This flare provides the necessary urging force to keep the truss in a deployed state.

Claim 29 further defines the flared surface with a partially flattened region to further established a dead center region to define the deployed position.

Claim 30 defines the urging function in terms of a trough and a flare section which likewise establishes a dead center region to define the deployed position.

Claim 31 defined the feedback resistance when the truss is moved from the fully deployed position. This makes it possible for the user to clearly know when the truss is fully opened without check with sights or tools.

Claim 32 is directed to the use of two different kinds of hinges to achieve a balanced urging force.

Claim 33 is directed to the issue of tuning the resistance of the various hinges along the length of the truss.

Claim 34 defines the commingling of the two types of hinges in claim 32.

Claim 35 defines an inventive truss structure with a feedback resistance, like claim 31, which insures that the truss is safely in the fully opened position without the need for sighting or tools, or a separate locking bar (Beaulieu). Millard has no such feature at all.

Claim 36, like claim 33, is directed to the concept of tuning the resistance of the structure to achieve the optimum urging force. Neither of the cited references address this issue.

Claim 4 defines a passageway for the bridging member which is formed in part by attached hinge and in part by the support member itself *and* which employs a resistive feature.. This is not the structure is not found in either reference. Millard provides for friction but it is a round tube system not easily modified to make the tube itself part of the channel structure (indeed, it calls for crimping around the tube, which is not an option in the channel structure as defined in this claim) and Beaulieu completely misses the idea of a resistive channel. The drawings in Beaulieu show a very loose connection between the bridging like members and the hinge. To combine the two references requires ignoring their inherent teachings which is not permissible in a section 103 rejection. Consequently it is submitted that the combination of the cited references does not achieve this claimed invention, without the infusion of ...further invention.

Claim 11 defines a truss which is uniquely capable of being folded as flat as practicable. To accomplish this a structure uses at least 4 sided side members and hinges are located on adjacent sides. The Millard structure is simply inapplicable as it is not 4 sided and consequently not capable of such flat folding. The Beaulieu structure is 4 sided but the hinges are folded in the wrong place for maximal flatness. The hinges are located on the same sides, not adjacent sites. This structure therefore uses fewer and cheaper hinges but sacrifices flatness. There is no other teaching in Beaulieu which would achieve the claimed invention.

Claim 14 adds the feature of frictional engagement, which for reason set forth for claim 4 are not taught in the cited art in this configuration.

Claim 18 is a method directed to operation of the truss which is the counterpart of, for example, claim 21, which recognizes the advantage of the urging force (here

called rotational resistance) when the truss is not in its fully deployed position. While the Millard reference has a resistive element, it is not used to maintain the truss in the deployed position.

In summary, the claims as submitted herewith have been carefully measured against the cited art and are distinguishable therefrom. Reconsideration of the outstanding rejection is requested.

CONCLUSION

In view of the amendments and reasons provided above, it is believed that all pending claims are in condition for allowance. The amendments clarify the patentable invention without adding new subject matter. Applicant respectfully requests favorable reconsideration and early allowance of all pending claims.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Michael B. Lasky at (952) 253-4106.

Respectfully submitted,

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